

would have at once envisaged a phenyl group at these positions from Zhuang's teaching of aryl substituents since a phenyl group is a basic aryl group, and references the definition of "aryl" as set forth on page 53 in *Grant & Hackh's Chemical Dictionary*. Accordingly, the Examiner asserts that, based on the teachings of Zhuang et al., one of ordinary skill in the art at the time of the invention would have reasonably expected that polymers having two aryl substituents on the thiophene unit, such as two phenyl groups, would be electroluminescent polymers and could be used for Zhuang's purposes.

Applicants disagree with the Examiner's assertions and respectfully submit that none of Zhuang, *Grant & Hackh's Chemical Dictionary* 5<sup>th</sup> ed (1987), page 53, or Kamatani, taken alone or in combination, render the invention recited in claims 1-14 and 17-20 obvious under 35 U.S.C. § 103(a).

In particular, each of independent claims 1, 2, 4, 6, 9, and 11 recite, in relevant part, that "each of R<sub>7</sub> and R<sub>8</sub> is a phenyl group." While Applicants acknowledge that phenyl groups are a basic example of a general aryl group, phenyl groups are clearly distinguishable from the aryl groups disclosed in Col. 9 of Zhuang. In particular, it would not have been obvious to use phenyl groups instead of the aryl groups disclosed by Zhuang, and no reasonable steps taken during any routine experimentation would have resulted in the use of phenyl groups instead of the aryl groups disclosed by Zhuang. In fact, Zhuang fails to disclose what aryl group is preferable for the formulas in Col. 9. For example, in case of the formulas in Col. 9, there is no suggestion by Zhuang that phenyl groups may be used. Moreover, even if a single phenyl group were someone used in the formula disclosed by Zhuang, there is no suggestion whatsoever that both R<sub>1</sub> and R<sub>2</sub> would be phenyl groups, as is required by the present claims.

As was previously presented in the Amendment After Final filed July 5, 2006, which is hereby incorporated by reference in its entirety, the polymers of claims 1, 2, 4, 6, 9 and 11 have difficult solubility, since both of the group R<sub>7</sub> and R<sub>8</sub> are phenyl group, having large structures, and not including polar groups. Thus, the use of phenyl groups yields unexpected and exceptional results not attainable through the teachings of Zhuang, or any routine experimentation conducted therefrom. Kamatani fails to overcome the deficiencies of Zhuang described above.

Therefore, for at least the above reasons, none of Zhuang, *Grant & Hackh 's Chemical Dictionary* 5<sup>th</sup> ed (1987), page 53, or Kamatani, taken alone or in combination, render the invention recited in claims 1-14 and 17-20 obvious under 35 U.S.C. § 103(a). Accordingly, Applicants respectfully request that the rejections of claims 1-12, 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Zhuang in view of *Grant & Hackh's Chemical Dictionary* 5<sup>th</sup> ed (1987), page 53, and claims 13, 14, 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Zhuang in view of *Grant & Hackh 's Chemical Dictionary* 5<sup>th</sup> ed (1987), page 53, as applied to claims 1-12, 17 and 18 above, and further in view of Kamatani, be reconsidered and withdrawn.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

**Except** for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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/Stephen M. Hertzler, Reg. No. 58, 247/  
Stephen M. Hertzler

NIXON PEABODY LLP  
Suite 900, 401 9<sup>th</sup> Street, N.W.  
Washington, D.C. 20004-2128  
(202) 585-8000